DOCUMENT RESUME

ED 354 472 CG 024 814

AUTHOR Obermesik, John W.; Beehr, Terry A.
TITLE Effects of Worker Classification, Crystallization, and Job Autonomy on Congruence-Satisfaction Relationships.
PUB DATE 92
NOTE 27p.; Paper presented at the Annual Meeting of the Midwestern Psychological Association (64th, Chicago, IL, May 1992).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS College Students; *Congruence (Psychology); Higher Education; *Job Satisfaction; *Student Employment
IDENTIFIERS Hollands Theory of Occupational Choice; *Occupational Congruence; Work Autonomy

ABSTRACT

A majority of the congruence-satisfaction literature has used interest measures based on Holland's theory, although the measures' accuracy in predicting job satisfaction is questionable. Divergent findings among studies on occupational congruence-job satisfaction may be due to ineffective measures of congruence and job satisfaction and lack of attention to moderator variables. This study tested the correlational differences between three measures of occupational congruence with each of two job satisfaction criteria. Subjects (N=301) were college student employees who returned a questionnaire for a 75% response rate. As hypothesized, perceived congruence predicted both satisfaction measures significantly better than the two Holland-based congruence measures. Three variables were also tested for moderating effects on each of the six congruence-satisfaction relationships. A more positive relationship was obtained between perceived congruence and satisfaction with work itself for high rather than low crystallization students. A more positive relationship between perceived congruence and overall job satisfaction was found for low rather than high job autonomy students. Worker classification main effects indicated that white collar student employees were more satisfied with their work and the job in general than blue collar student employees. Secondary analyses indicated that perceived congruence predicted satisfaction with work itself significantly better than overall job satisfaction. (Contains 26 references.) (ABL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED354472

Effects of Worker Classification, Crystallization, and Job Autonomy on Congruence-Satisfaction Relationships

John W. Obermesik

Terry A. Beehr

Central Michigan University

Paper presented at the annual meeting of Midwestern Psychological Association, Chicago 1992.

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Terry A. Beehr

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

CG024814

ABSTRACT

This study tested the correlational differences between three measures of occupational congruence with each of two job satisfaction criteria. As hypothesized, perceived congruence predicted both satisfaction measures significantly better than the two Holland-based congruence measures. Three variables were also tested for moderating effects on each of the six congruence-satisfaction relationships. A more positive relationship was obtained between perceived congruence and satisfaction with work itself for high rather than low crystallization students. A more positive relationship between perceived congruence and overall job satisfaction was found for low rather than high job autonomy students. Worker classification main effects indicated that white collar student employees were more satisfied with their work and the job in general than blue collar student employees. Secondary analyses indicated that perceived congruence predicted satisfaction with work itself significantly better than overall job satisfaction.

INTRODUCTION

A major portion of the congruence-satisfaction literature has used interest measures based on Holland's theory, although the measures' accuracy in predicting job satisfaction is questionable. A meta-analysis conducted by Assouline and Meir (1987) identified the mean occupational congruence-satisfaction correlation as .209 (ie., 4.4% of the explained variance in satisfaction; $\underline{n}$ = 16). If job satisfaction can be predicted more effectively by simply asking students what their interests are (Cairo, 1982) or by considering their declared major (Fricko & Beehr, in press) and comparing either to their employment, then the utility of interest inventories becomes less apparent.

According to Locke (1976), all jobs consist of a complex array of interrelated job elements. Locke defined job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1300). Most studies have focused on aspects of congruence rather than the different aspects of job satisfaction in congruence-satisfaction studies, with a few exceptions (e.g., Elton & Smart, 1988; Mount & Muchinsky, 1978; Weiner & Klein, 1978). In Assouline and Meir's (1987) meta-analysis, 62 percent of the studies using satisfaction as a criterion used a single item. The authors noted that congruence-satisfaction correlations may be affected by the unreliability of the criterion variables. Also, many studies have used a global measure of job satisfaction that inherently contains different facets of

satisfaction which may offset each other, leading to nonsignificant results. Spokane (1985) suggested that satisfaction with work itself was a more appropriate criterion in occupational congruence-satisfaction studies.

Discrepant congruence-satisfaction relationships may be the result of a restriction of range due to people's avoidance of incongruent positions (Assouline & Meir, 1987). Use of a college student worker sample may partially correct this restriction of range because students most often attend college to obtain a "white collar degree", and yet they often must accept blue collar positions temporarily that are incongruent with their career interests (Obermesik & Jones, 1992). A non-experimental field study can take advantage of these naturally occurring mismatches.

Additional factors not previously taken into account may also be influencing the strength of the congruence-satisfaction relationships. Certainty and clarity of interests, otherwise known as vocational self-concept crystallization (Barrett & Tinsley, 1977b), may moderate these relationships. Persons with less clear and certain career goals may be more inclined to be satisfied in an incongruent position than those with more solid and definite career objectives (see Taylor, 1988).

Instead of measuring the effects of vocational interest diversity, Mount and Muchinsky (1978) have suggested that the diversity might be in the job itself. Use of job autonomy as a moderator for congruence-satisfaction relationships (Campbell & Klein, 1975) may account for

previously unexplained variance due to the latitude employees are given to change their jobs to be more congruent with their interests.

Summary

Divergent findings among studies on occupational congruence-job satisfaction relationships may be due to ineffective measures of congruence and job satisfaction and lack of attention to moderator variables. Use of expressed interests and college major as indicators of vocational interests have resulted in stronger predictions for congruence-satisfaction relationships than formal interest inventories based on Holland's theory. Furthermore, worker classification, crystallization, and job autonomy were proposed to influence the congruence-satisfaction relationship.

Research Questions

This study investigated the congruence-satisfaction relationship among college student employees using three different congruence measures. Students assessed their own level of interest-occupation congruence using a perceived congruence measure. Two measures of "actual congruence" were assessed, (1) expressed occupational choice with present occupation, and (2) college major with present occupation using the Revised Compatibility Index. Both overall job satisfaction (to facilitate comparisons with previous studies) and satisfaction with work itself were used as criteria to determine if there were any notable differences between them. Blue and white collar job

classifications, vocational self-concept crystallization, and job autonomy were also tested as potential moderators of the congruence-satisfaction relationship. The basic hypotheses are represented in Figure 1.

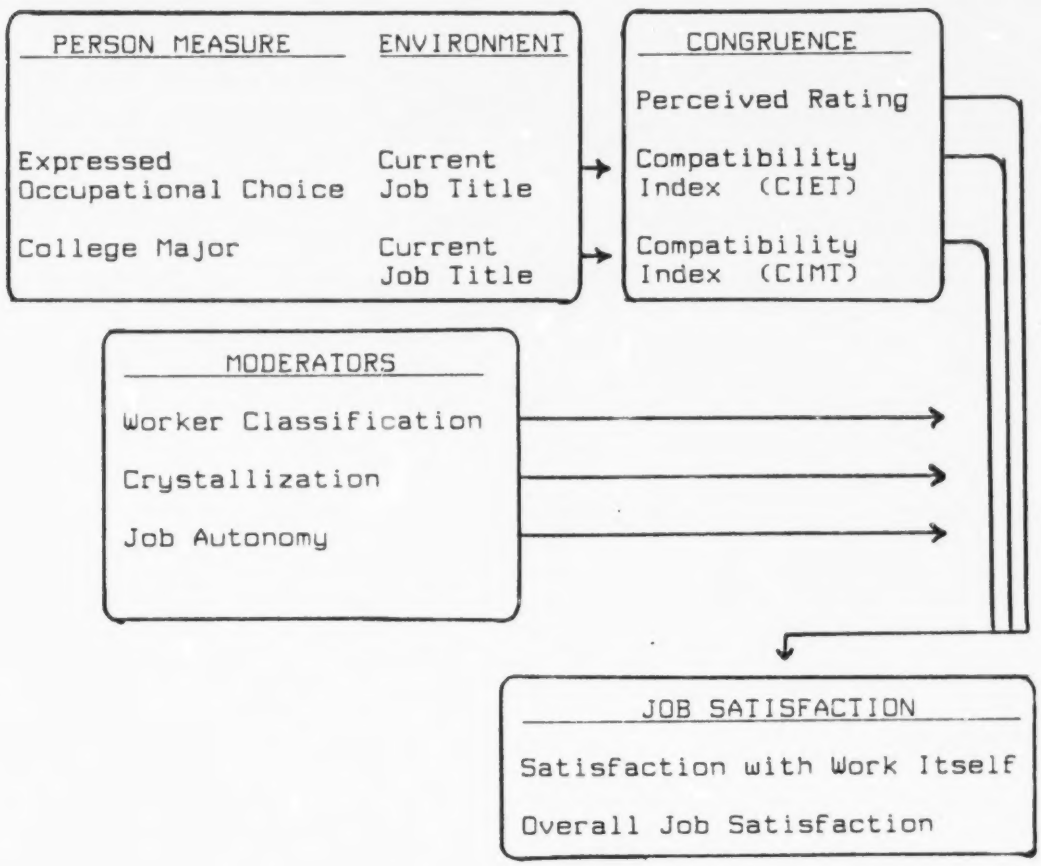

Figure 1. Diagram of Research Design.
NOTE: CIET is congruence of expressed choice and job title.
CIMT is congruence of college major and job title.

METHOD

Sampling

Four hundred and sixty-four students from a medium-sized midwestern university were sampled using student employment records. A cross-check between the sample and enrollment records resulted in the loss of 54 students (11.6%) due to attrition or graduation and 12 students (2.6%) could not be contacted resulting in an eligible sample of 398 college student employees. Of the 398 questionnaires distributed, 301 were returned for a 75.6% response rate. Participation in the study was voluntary.

Variables Measured

Present Employment and Vocational Interests

Demographic information and means, standard deviations, and ranges for variables in the study are in Table 1. Students' college major, expressed occupational preferences, and current job title were classified according to the Dictionary of Holland Occupational Codes (DHOC; Gottfredson & Holland, 1989) and Holland's (1966) classifications for vocations and major fields. Those majors for which a Holland code could not be determined were given Holland codes from the DHOC (Gottfredson & Holland, 1989) that represented jobs within that major field. The area of major studies that students with undeclared majors were most interested in at the time of measurement was used. Approximately 3% of the questionnaires required review by two raters to achieve consensus for assigning Holland codes.

Table 1. Descriptive Statistics for Subject Characteristics and Variables Measured

Item		Totals		
Gender	(N = 301)	88 Males	213 Females	
Residence	(N = 301)	144 On Campus	157 Off Campus	
Student Classification	(N = 301)	50 Freshmen 73 Juniors 11 Other	65 Sophomores 102 Seniors	
Worker Classification	(n = 300)	191 White collar workers 109 Blue collar workers		
Only Job	(N = 301)	195 Yes	106 No	
Main Job	(n = 105)	59 Yes	46 No	
Work Year Round	(n = 299)	201 Yes	98 No	
Flexible Hours	(n = 300)	282 Yes	18 No	

	Mean	SD	Range
Age (years)	21.1	3.24	26
Job Tenure (months)	14.0	13.2	114
Crystallization (VRS)	156.4	24.4	111
Job Autonomy (JDS)	4.46	1.56	6
Perceived Congruence between Campus Job and Interests	3.67	2.52	8
Congruence of Job Title and Expressed Interests	4.02	1.77	8
Congruence of Job Title and College Major	3.74	1.77	8
Satisfaction with Work on Present Job	30.6	10.9	48
Satisfaction with the Job in General	42.1	9.5	49

NOTE: n less than 301 due to missing data.

Congruence

Perceived Congruence. Student employees rated the level of congruence of occupational interests with their present student employment using three Likert-type items (eg., "To what degree is your present student employment related to your career interests"). This perceived congruence measure demonstrated a high internal consistency reliability of .94.

Actual Congruence. Actual congruence referred to the degree to which expressed interests and college major matched present employment. Both expressed interests and college major were compared with current job titles using the revised Compatibility Index (CI) as described in Wiggins, Lederer, Salkowe, and Rys (1983) to obtain two Holland-based congruence measures. A computer program was written to handle this task.

Worker Classification

Blue and white collar classifications were determined using the first digit from the major category of work as determined by the Dictionary of Occupational Titles (DOT; 1977). Occupations in the professional, technical, managerial, clerical, and sales categories were considered white collar jobs, while service, trade, and related occupations were considered blue collar jobs.

Crystallization

Vocational self-concept crystallization was measured using the Vocational Rating Scale (VRS; Barrett, 1976). A high internal consistency reliability (a = .96, N = 301) was obtained.

Job Autonomy

Job autonomy was measured using the three autonomy items from the revised Job Diagnostic Survey (JDS; Idaszak & Drasgow, 1987; Hackman & Oldham, 1980). The internal consistency reliability for these three items was also high ($a = .89$). The mean value for autonomy (4.46) approximated the normed value of the unrevised autonomy measure for the clerical job family (Hackman & Oldham, 1980). Many of the student positions sampled were of a clerical nature.

Job Satisfaction

Two subscales of the revised Job Descriptive Index (JDI; Smith, Kendall, & Hulin, 1985) were used to determine if reported satisfaction levels associated with congruence were due to the Work on Present Job or due to an overall assessment of the job as measured by the Job in General. Internal consistency reliability coefficients were .82 and .85, respectively, with an intercorrelation of .72 between the two satisfaction measures. The Work on Present Job mean total (30.6) was considerably lower than that reported in previous congruence-satisfaction studies involving more seasoned employees (eg., Mount & Muchinsky, 1978; Weiner & Klein, 1978). The Job in General mean total (42.1) approximated the results of a previous study involving student employees (Obermesik & Jones, 1992).

Procedure

A questionnaire booklet containing study variables was designed and distributed to the student employees following Dillman's (1978) Total Design Method.

RESULTS

The effects of three congruence measures, each in conjunction with three moderator variables, were tested by using three separate moderated multiple regression analyses for each of two job satisfaction criteria.

Hypothesis 1

Hypothesis 1 evaluated whether perceived congruence was related to both job satisfaction measures to a significantly different degree than Holland-based congruence measured by the revised Compatibility Index (CI). Support for hypothesis 1 was obtained as perceived congruence of student employment with career interests predicted both satisfaction with work itself and overall job satisfaction better than the CI values for congruence of expressed interests with job title (t = 7.71 and 4.52, respectively) and college major with job title (t = 6.51 and 2.75, respectively). Significant main effects were found for all three congruence measures in all six regression analyses (see Table 2).

Hypothesis 2

Hypothesis 2 predicted that white collar student employment would reflect a more positive congruence-satisfaction relationship than blue collar student employment because studnets attend college to obtain a "white collar degree". Worker classification showed a significant main effect in all analyses except overall job satisfaction under perceived congruence. However, none of the congruence-worker classification interactions were significant, thus lending no support to hypothesis 2.

Hypothesis 3

Hypothesis 3 stated that high crystallization would result in a more positive congruence-satisfaction relationship than low crystallization because low crystallization students might tend to be more satisfied in any job than high crystallization students. Significant main effects were found for crystallization in three of the six analyses. One of the six congruence-crystallization interactions (perceived congruence x crystallization predicting satisfaction with work itself) was significant providing moderate support for hypothesis 3 (see Figure 2).

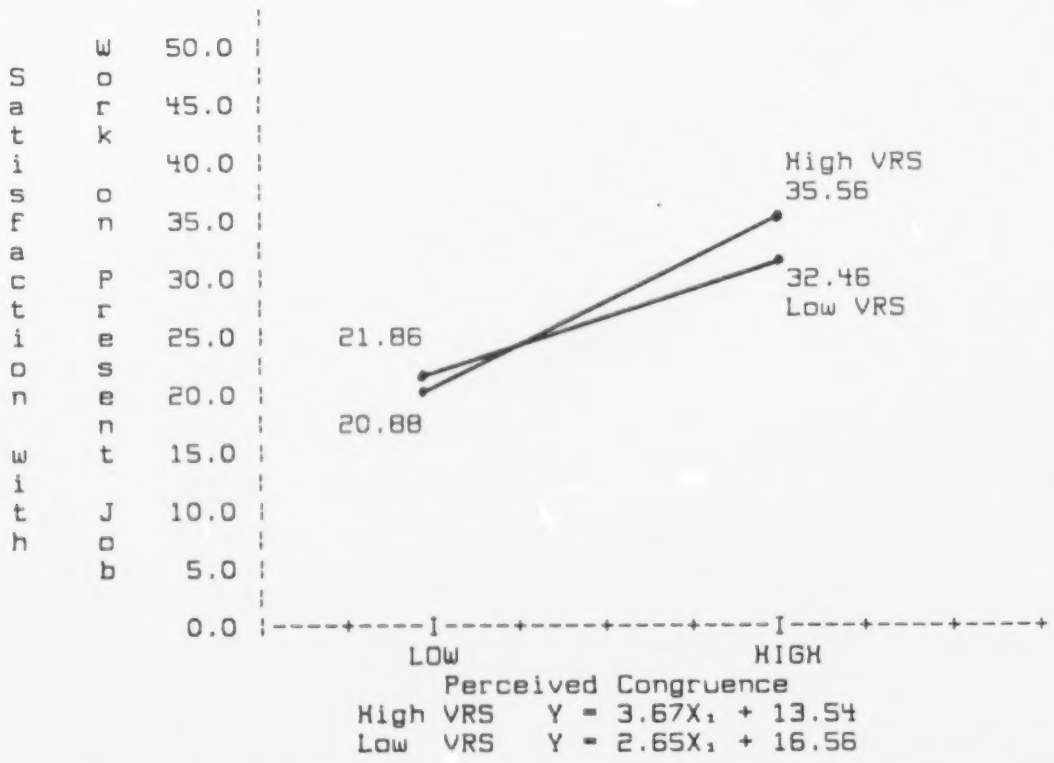

Figure 2. The Relationship of Perceived Congruence and VRS (Crystallization) to Satisfaction with Work on Present Job

Hypothesis 4

Hypothesis 4 predicted that low job autonomy would result in a more positive congruence-satisfaction relationship than high job autonomy because students with high job autonomy have the latitude to structure their work activities to match their interests. Job autonomy was the only moderator variable that showed a significant main effect in all analyses. A significant perceived congruence x job autonomy interaction for overall job satisfaction provided moderate support for hypothesis 4. Figure 3 shows that this interaction was in the hypothesized direction, with a more positive slope for jobs with less autonomy.

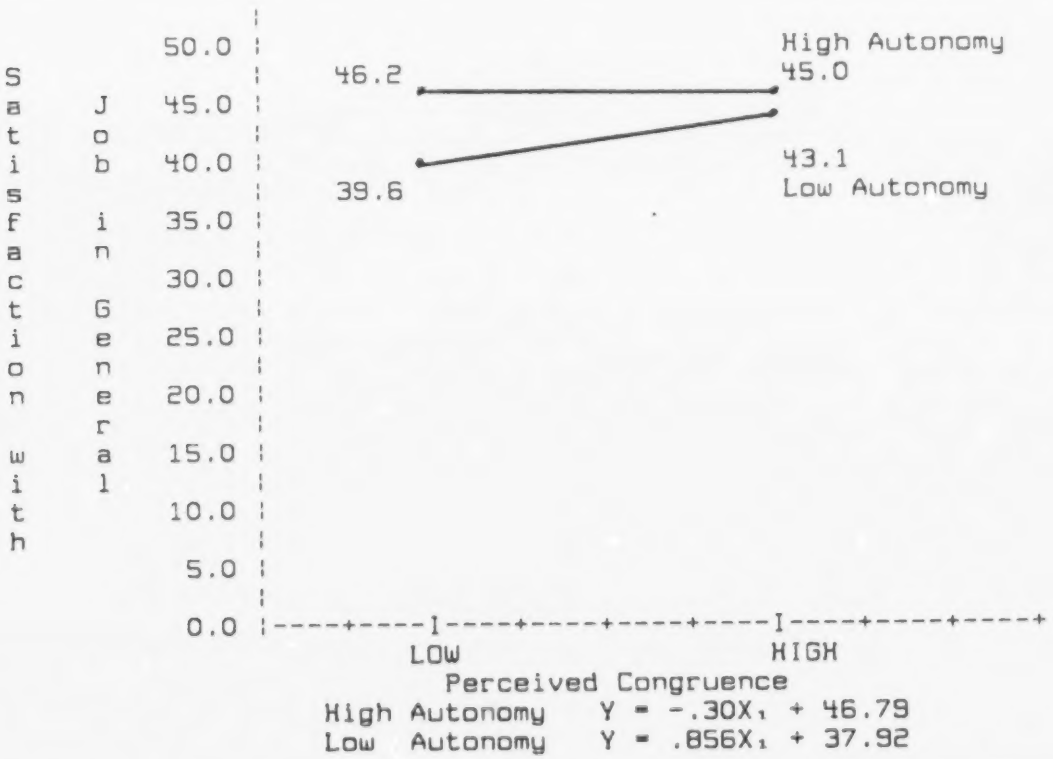

Figure 3. The Relationship of Perceived Congruence and Job Autonomy to Satisfaction with the Job in General

Secondary Analyses

The notion that the use of a satisfaction with work itself criterion is more appropriate for congruence-satisfaction studies than the more prevalently used global job satisfaction criterion was supported for the perceived congruence measure (t = 4.20), but not for Holland-based congruence using the revised Compatibility Index. No hypotheses were proposed regarding the best predictive Holland-based congruence measure, expressed interests with job title or college major with job title. However, supplemental analyses indicated that congruence of college major with job title predicted overall job satisfaction better than congruence of expressed interests with job title (t = 2.18).

Job tenure was suggested to have an effect on the congruence-satisfaction relationship (Weiner & Klein, 1978); however, this assumption was not supported by secondary analyses. Gender was also suggested to have a possible effect on the congruence-satisfaction relationship (Swaney & Prediger, 1985), yet this was also not supported. The act of having declared a college major suggested that this information could be used as an indicator of crystallization of vocational interests. Although a significant relationship (.31) was determined between crystallization and declaration of major, declaration of major did not predict job satisfaction.

Table 2. Moderated Multiple Regression for Job Satisfaction

Step	Study Variables and Interactions	Work Itself R^2 change	Work Itself Final R^2	Job in General R^2 change	Job in General Final R^2
1.	Perceived Congruence (PC)	.355**		.203**	
	Worker Class (Class)	.020**		.009	
	Crystallization (VRS)	.004		.003	
	Job Autonomy (JDS)	.075**		.061**	
2.	PC x Class	.000		.000	
	PC x VRS	.012*		.001	
	PC x JDS	.004	.472**	.018**	.294**
1.	Expressed/Title Congruence (CIET)	.016*		.023**	
	Worker Class (Class)	.076**		.023*	
	Crystallization (VRS)	.023**		.013*	
	Job Autonomy (JDS)	.213**		.144**	
2.	CIET x Class	.004		.002	
	CIET x VRS	.002		.001	
	CIET x JDS	.000	.334**	.002	.218**
1.	Major/Job Title Congruence (CIMT)	.035**		.070**	
	Worker Class (Class)	.061**		.018*	
	Crystallization (VRS)	.021**		.009	
	Job Autonomy (JDS)	.212**		.139**	
2.	CIMT x Class	.004		.000	
	CIMT x VRS	.000		.000	
	CIMT x JDS	.001	.334**	.000	.235**

* p< .05, ** p< .01.

DISCUSSION

Summary of Results

Results were found to be in the hypothesized direction with the perceived congruence measure predicting both satisfaction with work itself and overall job satisfaction significantly better than the informal Holland-based congruence measures. A differential effect on the congruence-satisfaction relationship between white and blue collar groups was not supported; however, worker classification main effects were found in 5 of 6 regression analyses. When considering perceived congruence only, high crystallization resulted in a more positive congruence-work itself satisfaction relationship than low crystallization, and low job autonomy resulted in a more positive congruence-overall satisfaction relationship than high job autonomy.

Secondary analyses suggested that a satisfaction with work itself criterion was a more appropriate measure than a global job satisfaction criterion in congruence-satisfaction studies using a perceived congruence measure. College major performed better than expressed interests as a person measure for Holland-based congruence in predicting overall job satisfaction. Job tenure and gender did not moderate the congruence-satisfaction relationship. Two of the three original crystallization main effects were explained by age, and flexibility of work hours provided additional information on both satisfaction measures.

The results show that white collar student employment is more compatible with students' career interests than blue

collar student employment, regardless of how congruence is measured.

Limitations of Results

Students were randomly sampled from a midwestern university, so results are generalizable most clearly to student employees of that university. The results may be applicable to other part-time employment situations; however, the populations may differ demographically.

Theoretical Implications

This study tested four hypotheses involving correlational differences between three congruence measures using two measures of job satisfaction and the influence of moderator variables on occupational congruence-satisfaction relationships.

Perceived Congruence vs Actual Congruence

Correlations between perceived congruence and the actual congruence measures were moderate, suggesting that students who were congruent according to Holland's theory also tended to report perceptions of congruence. The present study asked students to compare their current student employment with their career interests as an indicator of perceived congruence. Fricko and Beehr's (in press) overt (perceived) congruence measure asked post graduates to compare their jobs with their fields of study. In both studies, the perceived congruence measures accounted for a significantly higher amount of variance in job satisfaction than the Holland-based measures. Spokane (1979) found that congruent students perceived themselves to

be congruent in a predictive analysis using the SCII but not in a concurrent analysis. Congruent students in the predictive analysis were more satisfied as well. However, Spokane did not report perceived congruence-satisfaction relationships, so a determination on the relative effectiveness between the perceived and SCII-based congruence measures cannot be made.

Formal vocational interest inventories are designed to identify the specific pattern and strength of interest categories in order to assist in directing individuals with their career searches. This study attempted to determine the effectiveness of expressed interests and college major as person measures in lieu of formal interest inventories in the assessment of Holland-based interest-occupation congruence. It was suggested that the utility of formal interest inventories would come into question for prediction of job satisfaction if informal Holland-based congruence measures could achieve better results.

The results of the current study were found to be similar to the congruence-satisfaction results obtained by the Fricko and Beehr (in press) study in which congruence measured by the Compatibility Index (CI) was the comparison of college major and post-graduate employment. Neither study attained the high occupational congruence-satisfaction relationship ($r = .54$) reported by Assouline and Meir (1987) for the CI. Instead, the results of both studies approximated the explained variance typically found among

occupational congruence-satisfaction studies using formal interest inventories.

It is suggested here that the actual congruence measures, college major with job title and expressed interests with job title, did not demonstrate explanatory power much different from that of formal interest inventories for overall and work itself job satisfaction. However, it is undeterminable through the results of the present study whether the accounted for variance in job satisfaction using expressed interests and college major as person measures for actual congruence is the same as would be found using formal interest inventories, or is in fact, unique to the measures. Further, although the two actual congruence measures were moderately correlated (.57), a secondary analysis indicated that congruence of college major with job title predicted overall job satisfaction significantly better than congruence of expressed interests with job title.

Moderating Effects on Congruence-Satisfaction Relationships

For the most part, moderators have been ignored in the study of congruence-satisfaction relationships. This study attempted to generate interest and make a contribution in this area by introducing three moderators, two of which, crystallization and job autonomy, were significant. The results demonstrate that the understanding of congruence-satisfaction relationships may be enhanced by taking into account additional person and environment factors.

Worker Classification. The results show that white collar student employment is more compatible with students' career interests than blue collar student employment, regardless of how congruence is measured. Congruence of major and job title correlated highest with worker classification (.33), followed by perceived congruence (.27), and then congruence of expressed interest and job title (.19).

Students tended to be more satisfied in white collar employment when considering the work itself. It was suggested that white collar student employment would be preferable because students typically attend college to obtain a white collar degree. For all practical purposes, however, white collar student employment is typically clerical in nature, and thus is less strenuous than blue collar jobs such as a custodial worker. Blue collar students may have equated the level of exertion to the amount of work accomplished and perceived this as an inequity between blue and white collar jobs, resulting in lower job satisfaction.

Crystallization. It was expected that the slope of the congruence-satisfaction relationship for the high crystallized group would be more positive than the low crystallized group. Moderate support for this hypothesis was obtained with perceived congruence only. Students who had low levels of crystallization were expected to exhibit the same level of satisfaction in any position. In one sense, this suggests that low crystallization students would have no or a vast number of occupational preferences;

however, all students provided expressed occupational choices on the questionnaire.

There is another point of interest with this hypothesis in that it assumes that low crystallization students are able to make valid judgments concerning perceived congruence. That is, if students' occupational self-concepts are still in the formative stages as indicated by low crystallization scores, then how can they make valid judgments as to whether their student employment is related to their career interests? One might argue that since these students were not certain, they might have avoided rating themselves at the extremes. Perhaps, since the assessment of perceived congruence may have been uncertain for some, the prediction of satisfaction for low crystallization students would be less the function of congruence, not necessarily that low crystallization students would be satisfied in any job as the hypothesis suggested.

In previous research, the 40-item VRS was found "to be associated with the degree of certainty regarding overall self-perception and with the presence of a commitment to a vocational choice independent of age" (p. 312; Barrett & Tinsley, 1976). A significant correlation between age and crystallization (.24) in the present study suggested the contrary. Two of the three original main effects for crystallization were accounted for after controlling for age in a secondary hierarchical analysis. And although crystallization and job tenure were significantly correlated, it is not clear whether students become more

crystallized in their vocational development the longer they work, or whether more crystallized student employees tend to stay on the same job longer.

Job Autonomy. Job autonomy moderated the perceived congruence-overall job satisfaction relationship, such that for jobs with low levels of autonomy, congruence is more positively related to overall job satisfaction. The implication is that the understanding of perceived congruence-satisfaction relationships can be enhanced by considering additional environmental factors, such as job autonomy, in the workplace. Overall job satisfaction was high in jobs with high levels of autonomy regardless of the level of perceived congruence.

Secondary Analyses

The appropriateness of using overall job satisfaction as a criterion, as most studies have instead of using satisfaction with work itself, was questioned in the congruence-satisfaction literature (Swaney and Prediger, 1985). Studies have measured one or the other, but no studies were found that actually tested this thinking. The results indicated that perceived congruence predicted satisfaction with work itself significantly better than it predicted overall job satisfaction. Certainly, there are a number of facets of the job such as location, supervision, and promotions, that are important in determining overall job satisfaction. However, many of these facets of student employment (eg., pay, coworkers) have no rational association to the career of interest.

Practical Implications

Consideration of overall job satisfaction as an omnibus test to determine the fitness of any particular employment could thwart counseling efforts by virtue of inclusion of employment conditions unique to particular positions, but not necessarily to the field of interest. Since job satisfaction is a positive emotional state (Locke, 1976), it appears that some students are having mixed feelings about their employment. On one hand, they may dislike the work itself, yet may be satisfied with the job as a whole. Looking into the different facets of satisfaction can assist career counselors in offering more informed guidance.

The hit rate for accurately placing students in campus employment to maximize their job satisfaction may be improved by observing characteristics of the job itself and the students' career development status. The results suggest that students' perceptions of congruence are the strongest indicators of how satisfied they are in their campus employment. It is more important in promoting job satisfaction that students perceive the relevancy of their placement, not necessarily that the placement is a good match from a theoretical point of view.

REFERENCES

Assouline, M., & Meir, E. I. (1987). Meta-analysis of the relationship between congruence and well-being measures. Journal of Vocational Behavior, 31, 319-332.

Barrett, T. (1976). Vocational self-concept crystallization as a factor in vocational indecision. Unpublished doctoral dissertation, Southern Illinois University.

Barrett, T. C., & Tinsley, H. E. A. (1977). Vocational self-concept crystallization and vocational indecision. Journal of Counseling Psychology, 24, 301-307.

Cairo, P. C. (1982). Measured interests versus expressed interests as predictors of long-term occupational membership. Journal of Vocational Behavior, 20, 343-353.

Campbell, D. P., & Klein, K. L. (1975). Job satisfaction and vocational interests. The Vocational Guidance Quarterly, 24, 125-131.

Dictionary of occupational titles. (1977). U. S. Department of Labor, Washington, DC.

Dillman, D. A. (1978). Mail and telephone surveys. New York: John Wiley and Sons.

Elton, C. F., & Smart, J. C. (1988). Extrinsic job satisfaction and person-environment congruence. Journal of Vocational Behavior, 32, 226-238.

Fricko, M. A. M., & Beehr, T. A. (in press). A longitudinal investigation of interest congruence and gender concentration as predictors of job satisfaction. Personnel Psychology.

Gottfredson, G. D., & Holland, J. L. (1989). Dictionary of Holland Occupational Codes (2nd ed.). Odessa, FL: Psychological Assessment Resources, Inc.

Hackman, J. R., & Oldham, G. R. (1980). Work redesign. Reading, Mass: Addison-Wesley.

Holland, J. L. (1966). A psychological classification scheme for vocations and major fields. Journal of Counseling Psychology, 13, 278-288.

Idaszak, J. R., & Drasgow, F. (1987). A revision of the Job Diagnostic Survey: Elimination of a measurement artifact. Journal of Applied Psychology, 72, 69-74.

Kuder, F. (1970). Some principles of interest measurement. Educational and Psychological Measurement, 30, 205-226.

Locke, E. A. (1976). Nature and causes of job satisfaction. In M. D. Dunnette (Ed.), Handbook of industrial and organizational psychology (pp. 1297-1349). Chicago, IL: Rand McNally.

Mount, M. K., & Muchinsky, P. M. (1978). Person-environment congruence and employee job satisfaction: A test of Holland's theory. Journal of Vocational Behavior, 13, 84-100.

Obermesik, J. W., & Jones, M. E. (1992). Effects of worker classification and employment relatedness on student employee job satisfaction. Journal of College Student Development, 33(1), 34-38.

Smith, P. C., Kendall, L. M., & Hulin, C. L. (1969). The measurement of satisfaction in work and retirement: A strategy for the study of attitudes. Bowling Green, Ohio: Bowling Green State University.

Smith, P. C., Kendall, L. M., & Hulin, C. L. (1985). The Job Descriptive Index (Rev. ed.). Bowling Green, OH: Department of Psychology, Bowling Green State University. (Original work published 1975).

Spokane, A. R. (1979). Validity of the Holland categories for college women and men. Journal of College Student Development, 20, 335-340.

Spokane, A. R. (1985). A review of research on person-environment congruence in Holland's theory of careers. Journal of Vocational Behavior, 26, 306-343.

Swaney, K., & Prediger, D. (1985). The relationship between interest-occupation congruence and job satisfaction. Journal of Vocational Behavior, 26, 13-24.

Taylor, M. S. (1988). Effects of college internships on individual participants. Journal of Applied Psychology, 73, 393-401.

Walsh, W. B., Howard, P.R., O'Brien, W. F., Santa-Maria, M. L., & Edmondson, C. J. (1973). Consistent occupational preferences and satisfaction, self concept, self acceptance and vocational maturity. Journal of Vocational Behavior, 3, 453-463.

Weiner, Y., & Klein, K. L. (1978). The relationship between vocational interests and job satisfaction: Reconciliation of divergent results. Journal of Vocational Behavior, 13, 298-304.

Wiggins, J. D., Lederer, D. A., Salkowe, A., & Rys, G. S. (1983). Job satisfaction related to tested congruence and differentiation. Journal of Vocational Behavior, 23, 112-121.